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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/017,546	12/18/2001	Moshe Ben-Chorin	P-4698-US	8134

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EXAMINER

POON, KING Y

ART UNIT

PAPER NUMBER

2625

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/19/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/017,546	BEN-CHORIN ET AL.	
	Examiner	Art Unit	
	King Y. Poon	2625	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 14 December 2006.
- 2a) This action is **FINAL**. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-74 is/are pending in the application.
- 4a) Of the above claim(s) 1-46 and 59-74 is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 47-58 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) Notice of Informal Patent Application
- 6) Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 47-49, 52-58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lind et al (US 5,999,153) in view of Conner et al (Re 36,654) and Lin et al (US 6,757,428).

Regarding claim 47: Lind teaches a device (fig. 1) for soft proofing (column 2, lines 25-35) image data for printed material, the device comprising: (a) a light source (column 4, lines 65-67) for producing light having at least four primary colors (see table, column 6, Conner); (b) a converter (scanner, column 3, lines 40-42) that develops image data into a plurality of spectral components RGB, also see column 1, lines 60-67, Lin 428) for converting the image data to a plurality of spectral components corresponding to the image data according to at least one characteristic of the print material (column 4, lines 15-30), said spectral components for use in producing converted data (the spectral components are used to produce display data, column 3, lines 47-60) corresponding to at least one of at least primary colors (column 4, lines 25-30); (c) a controller (the control of the display that selects a filter, column 4, lines 14-20, column 14, lines 25-30,

22, 23, fig, 3, fig. 4) for determining a proportion (column 4, lines 32-35) at least one of said at least four colors according to said converted data for production by said light source; and (d) a viewing screen (the display area that is illuminated by the light, column 4, lines 65-67, also see column 16, line 67, Conner, it is well known in the art that a LCD display has a viewing screen) for displaying the image data according to said proportion from said controller.

Lind does not disclosed how many primaries that his system using white light as light source is capable of producing.

Conner, in the same area of LCD display, teaches white light used in a LCD system, inherently can produced at least 4 primaries (R, G, B, C, M, Y) (see table 1, column 6, also see column 7, lines 30-40 that a black filter is added to increase contrast).

Therefore, it would have been obvious to a person with ordinary skill in the art to produce light of all color possible including at least four primaries (the more the better) in the system of Lind such that the printed material is accurately displayed with enhanced contrast.

Regarding claim 48: Connor teaches it is well known in the art that LCD display comprising: (e) a projector for projecting light of said at least four primary colors onto said viewing screen according to said proportion (column 16, lines 60-67).

Regarding claim 49: Lind and Connor teaches wherein said light source comprises: (i) a polychromatic source (white light, column 4, lines 65-67, Lind); and (ii) at

least four color filters (column 3, line 67, Lind, table 1, column 6, Connor), each color filter corresponding to an ink transmission spectra (column 4, lines 15-20, Lind).

Regarding claim 52: Lind teaches wherein said at least one characteristic of the printed material is determined according to a transmission spectrum of a combination of inks (column 4, lines 15-20).

Regarding claim 53: Lind teaches wherein said light source for producing light having at least four primary colors is selected such that a spectrum of said light having at least four primary colors is matched to said at least a portion of a spectrum of a combination of inks (column 4, lines 15-20).

Regarding claim 54: Lind teaches, wherein said at least one characteristic of the printed material is determined according to a color reflection characteristic of a material for receiving said combination of inks (column 4, lines 40-46, match ink on paper, inherently, the illumination condition of the paper determines the spectral of ink on paper).

Regarding claim 55: Lind teaches wherein said at least one characteristic of the printed material is determined according to a spectrum of a combination of inks (column 4, lines 15-20), and wherein a brightness of said light (column 4, lines 30-45, change the brightness of light would increase the color gamut available to the system to match the spectral of ink on paper; inherently, the illumination condition of the paper determines the spectral of ink on paper) having at least four primary colors is adjusted according to illumination conditions for said material for receiving said combination of inks.

Regarding claim 56: Lind teaches the device of claim 47, further comprising a white light source (column 4, lines 65-67) for producing white light, wherein said illumination conditions are adjusted according to an amount of said white light being produced (column 4, lines 35-40).

Regarding claim 57: Lind teaches the device of claim 47, further comprising: (e) a polychromatic light source (column 4, lines 65-67); and (i) a plurality of filters (column 3, lines 65-67) for filtering light from said polychromatic light source for producing said light having at least four primary colors (column 4, lines 25-30, column 6, of Connor); wherein said at least one characteristic of the printed material is also determined according to a spectrum of at least one ink (column 4, lines 15-18), and said filtered light is adjusted (column 4, lines 30-35) according to a density of said at least one ink compared to said filters (column 4, lines 15-18).

Regarding claim 58: Lind teaches wherein a saturation of said light having at least four primary colors is adjusted (column 4, lines 30-45, change the brightness of light would increase the color gamut available to the system to match the spectral of ink on paper; inherently, the illumination condition of the paper determines the spectral of ink on paper) according to a gloss of said material, said material for receiving at least one ink.

3. Claim 50 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lind et al (US 5,999,153) in view of Conner et al (Re 36,654) and Lin et al (US 6,757,428), as applied to claim 47 above, and further in view of Wang (US 6,278,540).

Lind does not teach wherein said projector comprises a spatial light modulator for determining a path of light of each primary color.

Wang, in the same area of LCD display, teaches it is well known in the art that a projector of LCD comprises a spatial light modulator (column 4, lines 65-67, column 5, lines 1-15, column 5, lines 30-35) for determining a path of light (fig. 4) of each primary color.

Therefore, it would have been obvious to a person with ordinary skill in the art at the time the invention was made to have modified Lind to include: said projector comprises a spatial light modulator for determining a path of light of each primary color, to improve image resolution as taught by Wang, column 5, lines 25-30.

4. Claim 51 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lind et al (US 5,999,153) in view of Conner et al (Re 36,654) and Lin et al (US 6,757,428), as applied to claim 47 above, and further in view of Gransden et al (US 6,404,970).

Regarding claim 51: Lind teaches to control the brightness of light of the at least four primary colors (also see discussion of claim 47).

Lind does not teach to use a continuously variable neutral density filter for controlling brightness of said light of said at least four primary colors.

Gransden teaches it is well known in the art to use a continuously variable neutral density filter for controlling brightness of a light (column 1, lines 37-45).

Therefore, it would have been obvious to a person with ordinary skill in the art at the time the invention was made to have modified Lind to include: use a continuously

variable neutral density filter for controlling brightness of said light of said at least four primary colors.

It would have been obvious to a person with ordinary skill in the art at the time the invention was made to have modified Lind by the invention of Gransden because: a) it would provide a less complex and less cost system for Lind as taught by Gransden at column 2, lines 15-17, and b) it would have performed satisfactorily, column 1, line 61.

Response to Arguments

5. Applicant's arguments filed 12/14/2006 have been fully considered but they are not persuasive.

With respect to applicant's argument that the cited references does not teach: a converter for converting the image data to a plurality of spectral components corresponding to the image data according to at least one characteristic of the print material, said spectral components for use in producing converted data corresponding to at least one of at least primary colors, has been considered.

In reply: Lind teaches a converter (scanner, column 3, lines 40-42 that develop image data into a plurality of spectral components RGB, also see column 1, lines 60-67, Lin 428) for converting the image data to a plurality of spectral components corresponding to the image data according to at least one characteristic of the print material (column 4, lines 15-30), said spectral components for use in producing converted data (the spectral components are used to produce display data, column 3,

lines 47-60) corresponding to at least one of at least primary colors (column 4, lines 25-30).

Lind does not disclosed how many primaries that his system using white light as light source is capable of producing.

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Therefore, it would have been obvious to a person with ordinary skill in the art to produce light of all color possible including at least four primaries (the more the better) in the system of Lind such that the printed material is accurately displayed with enhanced contrast.

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to King Y. Poon whose telephone number is 571-272-7440. The examiner can normally be reached on Mon-Fri 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Coles can be reached on 571-272-7402. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

March 12, 2007



KING Y. POON
PRIMARY EXAMINER